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SYMPHYOTRICHUM PRATENSE (ASTERACEAE): NEW FOR THE FLORA OF OKLAHOMA

MATT WHITE
882 Hwy 24
Campbell, Texas 75422
mwhite@parisjc.edu

DAVID ARBOUR
1462 W. Collin Raye Dr.
De Queen, Arkansas 71832

ABSTRACT

Symphyotrichum pratense is reported new for Oklahoma from a site east of Broken Bow, McCurtain County, in the extreme southeastern corner of the state. In 2010 this species was collected on a degraded limestone cedar glade, a habitat more typical of populations in the eastern United States rather than those in nearby Texas. This species is rare everywhere except Texas and Louisiana and should be considered imperiled in Oklahoma.

KEY WORDS: Asteraceae, *Symphyotrichum*, *Symphyotrichum pratense*, McCurtain Co., Oklahoma

Symphyotrichum pratense (Raf.) Nesom, barrens silky aster, is native to dry, sandy, saline, or rocky barrens and prairies or prairie-like habitats in the southeastern USA (Jones et al. 2008). It is closely related to *S. sericeum*, from which it can be distinguished by its larger involucre, less sericeous phyllaries, and phyllary morphology. In *S. pratense* the distal, green portion of the largest phyllaries are much longer than the proximal, indurate portion, while in *S. sericeum* the reverse is true—though in occasional individuals of the latter the two portions are about equal (Jones et al. 2008).

Except for a small region of central Texas, *Symphyotrichum pratense* and *S. sericeum* are allopatric. According to the excellent synopsis provided by Jones et al. (2008), *S. sericeum* is found primarily from Arkansas and Oklahoma north to southern Canada, western Michigan and Indiana, with disjunct populations in central Texas. The core range of the *S. pratense* lies in eastern Texas and western Louisiana with disjunct populations farther east. In Texas this species is associated more frequently with sandy and sandy loam soils—particularly those of the post oak savannah and the piney woods as well as coastal prairies—and less commonly with the calcareous clays of the blackland prairie. In contrast, Louisiana locations are in blackland prairie remnants, chalk hills, and calcareous clays as well as pine flatwoods. On the coastal plain of southern Arkansas, where it has apparently been mostly extirpated, it grows in open saline barrens. Farther east, the species grows mostly in calcareous chalk barrens, cedar glades, and limestone outcrops. These widely disjunct populations are in central Kentucky, scattered in middle Tennessee, western Virginia, western North Carolina (historically), northwest and south central Georgia, as well as the Florida Panhandle, northern and western Alabama, and east central Mississippi (Jones et al. 2008).

Prior to this discovery, *Symphyotrichum pratense* was not known from Oklahoma (Jones 1992; Jones et al. 2008; BONAP 2012). On 27 October 2010 Arbour collected the species east of Broken Bow, in McCurtain County, Oklahoma, on a subdivided tract that was for sale. Two days later White visited the site and counted around a dozen plants and obtained numerous characteristic photos and a partial specimen of a flowering head, which was scanned at high resolution. White and Arbour revisited this site 5 October 2012 and White collected another voucher.

Voucher specimens: **Oklahoma.** McCurtain Co.: 5.25 mi E of Broken Bow on US 70 and 0.5 mi N on county road to Mt Fork Park ~50-80 yards E of road in open glade, 34° 02' 91.40 N, 94° 39' 13.50" W, 27 Oct 2010, *Arbour s.n.* (OKL); 5 Oct. 2012, *White s.n.* (BAYLU).

Figure 1. A (left). *Symphyotrichum pratense* scanned at 3600 dpi from a collection made, but not preserved, 29 Oct 2010. Note that the distal green portions of the largest phyllaries are approximately 2/3 the length of the indurate proximal portions in this individual. B (right). Macrophotograph of *M. White s.n.* (BAYLU) collected 5 Oct 2012. Note the marginal cilia on the phyllaries. Photo by Matt White.

The Oklahoma site is a degraded cedar glade with thin soils over limestone. *Symphyotrichum pratense* is rare and occurs with *Schizachyrium scoparium*, *Dalea compacta* var. *compacta*, *Physostegia virginiana*, *Rudbeckia missouriensis*, *Liatris squarrosa* var. *glabrata*, *Liatris pycnostachya*, *Spiranthes magnicamporum*, *Manfreda virginica* subsp. *virginica*, *Eupatorium altissimum*, *Silphium laciniatum*, *Stenaria nigricans* and *Carex microdonta*.

The habitat at this site is in stark contrast to characteristic habitat on the coastal plain in neighboring Bowie County, Texas where *Symphyotrichum pratense* grows in abundance (M. White pers. obs.) in two "pocket prairies" remnants. The habitat at these prairie remnants was described by

Singhurst et al. (2011). In contrast, the McCurtain County site is on the edge of the Interior Highlands and the habitat more like that found in the disjunct eastern populations with many of the same plant associates.

When the species was discovered, the timber around the glade had been clearcut and the land subdivided and offered for sale, and some of the surrounding lots had been developed into domestic lots. The glade, however, was intact. It was subsequently sold and the scattered cedars were cleared with a dozer and pushed into piles although some of the remnant vegetation still existed 5 October 2012 when a search was conducted by Arbour and White and three plants were located.

Figure 1. *Symphyotrichum pratense*. Close up of flowering head and phyllaries. McCurtain County, Oklahoma. 29 Oct 2010. Photo by Matt White.

According to BONAP data (2012) the discovery of *Symphyotrichum pratense* in Oklahoma brings the number of *Symphyotrichum* species currently listed for the state to 26, with 17 in McCurtain County alone. Everywhere except Texas and Louisiana, *S. pratense* is considered rare. In Alabama, Georgia, Mississippi, Tennessee, and Virginia it is considered S1 or critically imperiled with fewer than five occurrences (Jones et al. 2008). Oklahoma should be added to the list because currently the species is known from one site and the continued survival of the population is tenuous. Additional populations should be actively sought on similar habitats on nearby timberlands.

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